Ultra-processed Foods Addendum

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Introduction

UPFs are defined as “industrial formulations typically with five or more and usually many ingredients” under the Nova food classification system (Monteiro et al., 2016). However, it is important to understand that to many — including most consumers — UPFs are synonymous with “junk food” containing unhealthy levels of fat, salt, and sugar. The distinction between the denotative and connotative definitions of UPFs is important to understand, especially regarding communicating the health and nutritional impacts of consuming this broad category of processed foods.

- While Nova is the only classification system that uses UPF by name, other food systems have similar classes, as outlined in **Food Processing: Comparison of Different Food Classification Systems — *Nutrients* — 2022**:
- The International Agency for Research on Cancer (IACR) defines highly processed foods as “foods that have been industrially prepared, including those from bakeries and catering outlets, and which require no or minimal domestic preparation apart from heating and cooking.” (Slimani et al., 2009)
- The International Food Policy Research Institute (IFPRI) defines highly processed foods as “foods that have undergone secondary processing into readily edible form, likely to contain high levels of added sugars, fats, or salt.” (Asfaw, 2011)
- The International Food Information Council (IFIC) has two similar classifications: ready-to-eat foods are “Packaged ready-to-eat foods” or “Mixtures, store prepared,” while prepared foods/meals are “foods packaged to stay fresh and save time.” (Eicher Miller et al., 2012)
- The University of North Carolina at Chapel Hill defines highly processed foods as “foods and beverages [that] are multi-ingredient industrially formulated mixtures processed to the extent that they are no longer recognizable as their original plant or animal source.” (Poti et al., 2015)

While there are no current federal regulations on UPFs in the United States, states such as California and Utah have proposed bans on UPFs, with their own criteria. Conversely, though the 2025 Dietary Guidelines Advisory Committee (DGAC) report acknowledged research on UPFs, it did not provide guidance on consumption of the category, noting a lack of a universal definition for UPFs and developing research. While acknowledging research on ultra-processed foods (UPFs), it did not provide specific guidance on limiting their consumption. However, the report did examine a potential relationship between consumption and health outcomes including risk of obesity.

Landmark Studies

- **A new classification of foods based on the extent and purpose of their processing — *Cadernos de Saúde Pública* — 2010**
  - Authored by researchers at the Universidade de São Paulo, this study created the Nova classification system and coined the term “ultra-processed foods.” This iteration of Nova defined three groups: minimally processed foods (group 1), processed culinary and food industry ingredients (group 2), and UPFs (group 3).
- **NOVA. The Star Shines Bright — *World Nutrition* — 2016**
  - Also from the Universidade de São Paulo, this paper updated the Nova classification system to include four groups: minimally processed foods (group 1), processed ingredients (group 2), processed foods (group 3), and UPFs (group 4).
- **Ultra-Processed Diets Cause Excess Calorie Intake and Weight Gain: An Inpatient Randomized Controlled Trial of Ad Libitum Food Intake — *Cell Metabolism* — 2019**
  - Conducted by researchers at the National institute of Health (NIH), this study compared two groups of adult men over a two-week period: one eating a diet made of UPFs and the other eating a diet of unprocessed foods, with the meals “designed to be matched for presented calories, energy density, macronutrients, sugar, sodium, and fiber.” The study found that those on the UPF diet ate around 500 kcal/day more than those on the unprocessed diet.
- **Dietary Guidelines Meet NOVA: Developing a Menu for A Healthy Dietary Pattern Using Ultra-Processed Foods — *The Journal of Nutrition* — 2023**
  - Researchers at the United States Department of Agriculture’s Agriculture Research Services (USDA ARS) found that a diet made up of UPFs could mostly fit into the 2020 Dietary Guidelines for Americans (DGA), finding that the diet “provided adequate amounts of all macro- and micronutrients except vitamin D, vitamin E, and choline.”
- **Using Less Processed Food to Mimic a Standard American Diet Does Not Improve Nutrient Value and May Result in a Shorter Shelf Life at a Higher Financial Cost — *Current Developments in Nutrition* — 2024**
  - Conversely, a follow up study from USDA ARS found that “less-processed menus can have comparable diet quality with more-processed menus although being more costly and less shelf stable.”

Scientific Studies

- **Ultra-processed Foods Content Collection — IFT**
- **Special Issue: Ultra-Processed Foods — *Journal of Food Science* — 2025**
- **Trust the Process: A Food Scientist’s Perspective on Nova — *Food Technology* — 2025**
- **Navigating Next-Gen Nova — *Food Technology* — 2025**
- **The Dietary Guidelines: What’s Next? — *Food Technology* — 2025**

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